Rec'd Jan 18
Ans Jan 29

Aiken S.C. January 13 1871

Dr George Engelmann St Louis Mo.

My dear Sir

Gotten in town, & Mr Samuel Rac-
-cuel my nephew are on their way to
Your State, which they design making
their future home. As they expect
to stop in St Louis for a day or
two & give them this note, hoping
they may thus have the pleasure of making
Your acquaintance

Any attention you may have it in
Your power to extend to them will be
duly appreciated by them, & also by

Yours very truly

H. W. Ravenel

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I have been making inquiries about that box sent to you in Nov. last & have got the enclosed agents invoice. I am daily looking for a letter from you, announcing it's safe arrival. I shall request Lewis &c, as besides the gold & silver, it contains specimens of my Texan plants, (viz seeds of Pines, & specimens of Yucca & Opuntia.

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Rec'd Jan 25
Ans Jan 29

Aiken SC. Jan 21/71

My dear Sir

On receipt of your kind
letter of Dec. 15th, I at once noticed to
Express Agent here of the non-receipt of
the box sent to you in November, & re-
quested him to hunt it up. Yesterday
he informed me that "It was at St
Louis"! My it has not been delivered
I cannot conceive. Will you make
the further inquiries at the Express Office
& let me know if it has not been
delivered to you. The yucca plant
of course must be dead & perhaps also
the Opuntia.

Last week two of my friends & Office
mates ran down to Augusta & I
took pleasure in giving them a letter
to you, which they could deliver if
they ever long enough in St Louis

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I am trying to accomplish a purpose which I have long desired to do – viz to make a tour in Florida – of course botany the chief attraction. If I do so, is there any thing special you would like attended to? A little later, besides Cryptogames, I would do something among the Phanerogams. I would like very much to have get a place in the Dominican Expedition

Yours very truly

H W Ravenel

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Rec Febr 15
Ans Mch 12

Aiken S.C. Feb 11/21

My Dear Sir

The letter with Bill of Exchange
for $14. came to hand yesterday — & also
your notes upon some of the Pecan Plants.
Thanks for the former. I will look out
for the Lachea you allude to.

I suppose you have examined the Pines
& have seen an error & committed in
calling one of the Pines, P. glabra instead
of P. mitis (your Dr Mellichampe).
I have three specimens from Aiken & Bluffton may lead you to
some thing definite as to the status of
the Pine. The bark sends from the
old cones tells an important story
in respect to its habits.
That other Pine marked A. is something
new to me. Dr Mellichamp has since
sent me some specimens

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My son was on the Sea islands not far from Beaufort for 3 or 4 months in the fall, & brought me several specimens of Spartina which I have planted. Many grow & fruit, & the seed gave specimens of each. — & also C. vulgaris from about here.

I will send you by mail in a few days, a few seeds each of Sabal Palmetto — Adansonii & serrulata which I suppose you would like to have for herbarium

in haste yours truly

H W Ravenel.

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Rec'd March 20 '4

Aiken S.C. March 16/21

Palm seeds sent onward

My dear Sir

Yours of 12th reached me yesterday.

Your comments occur to me as reading it, which I just draw at once. They may suggest points which will help to clear the stream — or smudge it a little more.

Whether this new Palm of Dr Wallenberg is really Elliotts "Taxodium Watenstyllia", can never be definitely known, as he has left no specimens of his examination. I think it probable that it is, though the following considerations seem to cast doubt on it. — — — Elliott intimates that this tree is not so common in this state (around him) as it is in Georgia — Dr Ell. does it very often, & in localities where Elliott must constantly have had it under his eye. Elliott says it flowers in April — Dr Ell. finds it in flower end of February. (However this is an unusually forward spring) The cones of taxodium are all

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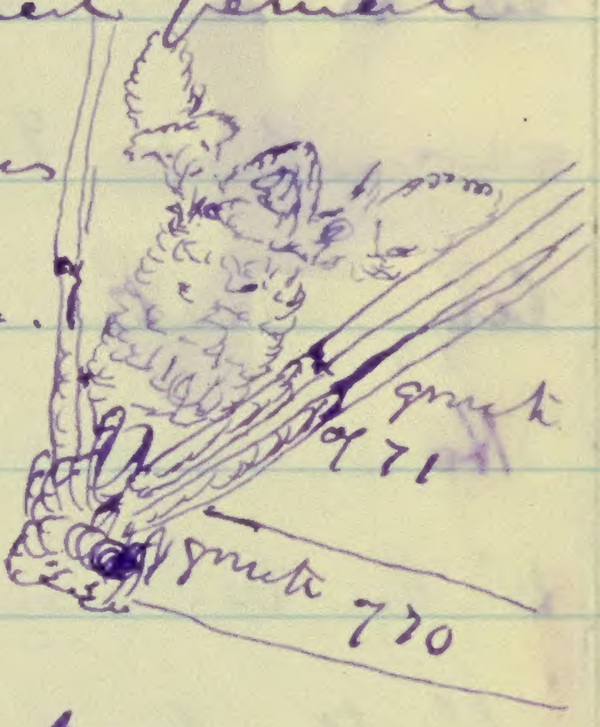
ossicle – there are strongly stibulate (1/2 inch)
The longest of the cones sent by Dr Hall. measures
2 inches – the shortest 3½ inches in length.

You speak of them having "terminal female
ments" – Not so in my specimens
Here is a figure of the specimen he sent me.
The undoubted quote of 771 X Hamilt
shows that the cones are not termi
nal. And in two specimens sent to me
in 1881, with full grown cones, they are at
least 1 to 1½ inches from the apex of the green
quote.



Now about sentina! You present
impression is that "sentina is a good species
both that only Dr Hall. finds it on the Sentinel,
& that mine (from near Chilen) is a large Santeen
form of P. rigida" I noticed that her cones
were shorter & more compact, than those I get
here, but I can only I have seen just such
cones in St Helens (where I formerly lived) &

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) perhaps we have also - attributable mostly
to location; — a form on two drupe soil &
a rather shaded spot of trees, fruiting
two smaller ones. My impression is there
a complete series with the three
divergent forms

Here is a point that has always perplexed
me. Elliott speaks of rigida growing in
"the low Country of Carolina" ("though not very
common") Now who has ever seen the true
rigida on the Sea coast? — & if it is not
them, what tree did Elliott have in
mind for that species (for he evidently
speaks as having seen it) Sometimes I have
thought he alluded to this same Pine of
Mitchell's as rigida, but his description
of the cones do not suit it.

Well perhaps I have muddled up the
matter enough for this time. Though the
suggestions may be crude, they may still help

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to call your attention to herein which may
often a valuable thread light on the question.

My own belief is we yesterday (in
Rome Ga. when he visited formerly locality
discovered). I have told him to look out
for what botany in general & Pines in
particular.

The last letter received from Dr Chapman
was in January of 69. He was then about
to leave Apalachicola & go elsewhere
"east of the reign of the nigger". Whether he
went or not, I have never heard. He had
held the office of Collector of Customs, — & not
coming up (I presume) to the former standard of
Radicalism had been supplanted by some
more pliant specimen

very truly yours
Hy Engelmann

I do not expect to go to Florida this winter.
Should learn the Texan plants too long "galled down"

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Rec'd April 29 71
Ans May 5

Aiken S.C. April 24 /71

My dear Sir

I believe I have not yet replied to your note of March 18, & returned you per two specimens of Pinus received at the same time. I am glad to have them, & to see (per the first time) ones of P. rigida & Mellichamp until I have seen [illegible] cones & specimens of the P. rigida altho' your perfect specimens of ade to Pinus about him. I am pleased to see how deeply interested he has become in the Pine question (Pine Knot?) — & how from his position & his time, he will be very serviceable — & especially as I am able to do so little now.

How is quite pleased with your manageress of Cactaceae

I have written to a friend in Charleston (the great grandson of Thomas Walter the botanist) to inquire if a Cactus?

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Walters Flora can be got in ten days.
Some ten inch can be supplied
on ten days in ten specimens, packing
specimens of each one Pinus (10 to 12 specimens
each) for distribution in Europe.
I have been able to procure austriaca,
mitis & taeda. Sentina & inops
are almost out of my reach, more
than my own have left me, though
I will make an effort to get them
also. Would you like to have them?
- & if so, shall I send them abroad
by express?

Perhaps Mallinckrodt could
get you some coast pines of Pinceus
that will be interesting. I have no doubt
he will be pleased to serve you
if you ask him

yours very cordially
H W Ravenel

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Rec'd May 18
Ans — 29

Aiken S.C. May 13/71

Wm H. Ravenel

Myddear Sir

Yucca filamentosa is just now in flower & I take down the following description, as accurate & complete as I can make it.

Stem 0 [at least out of very many that I have seen about here, I have never met with a distinct stem. Their succession in my garden was removed from the ends first on six years ago, (leaving the dried stem & dried leaves) & have grown regularly ever since & shows no stem yet]

Leaves rather rigid, erect & spreading, but not recurved, varying from linear lanceolate to broad lanceolate or spoon-shaped, somewhat glaucous, with thread like filaments on the entire margins (Elliott says "margin serulate") terminating in a spine (Elliott says "not rigid, nor terminating in a spine")

Scape 4 to 6 ft high, with panicle 2 to 3 ft long, of white pendent flowers, which arise singly from the axils of the clasping membranaceous bracts. Pedicels about 3/4 in long, with a small membranaceous bract about 1/2 inch from base. Perianth 6-leaved, white, tinged with yellow & purple, the 3 exterior rather smaller, all pointed & commencing, even at maturity of flowers. Stamens 6, 3/4 inch long, club shaped & thickened towards the apex, greenish white & densely covered with minute prickles or thickened hairs. Anthers below expansion of flowers, white, basifixed or hastate, attached to the apex of the filaments,

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revocatile, introrse. In the expansion of the flowers, the yellowish & shrunken anther occupies only a portion of the apex of the filament. Styles thick, united beyond the middle, 3 parted at summit, with recurved channelled stigmata.

Flowered in my garden May 9 — (in other less advanced seasons & in the wood, probably about June 1st)

I have lost the fruit every season from the attacks of an insect which comes in swarms. I have given it an application of Kerosene — I see but few this season.

I was just about writing when your last letter of May 8 arrived. With respect to the "germination of Pines &c" I have made no observations further than this — That the seeds of P. australis germinate immediately after falling from the trees in November. I have not noticed others. I observed last fall in a Pine I have in front of my house, that the leaves on the shoot of the common grass did not reach their full growth during the season — that they could readily be distinguished from the lower leaves by their length. Supposing this might be a feature common to all the Pines, I intended to observe further on this observation; & see if the seed & leaves of all, remained in that half matured state until the commencement of the new growth in the Spring. But I have not been able to do much this winter, & have been confined very much within doors. This Pine alluded to above is the edible fruited Pine from the South, Pinus [illegible] — What is it? I have had it growing about 10 or 12 years from the seed. — & it is now beginning bravely

Rec'd June 7
Ans 2-of 31

Aiken S.C. June 3rd '31

Fondation of Baptisia perfoliata

My dear Sir — We must have been thinking of each other last Sunday 29 (the date of your letter) — as on that day I made out to get a collection of Penn sentences in very print. By the bye, I omitted mentioning that I on May 2nd I came at a station on the road to Augusta and I & on 6 miles from here, Penn sentences in bloom, both male & fertile among quite young. These specimens collected not may be of use, may be send to be one month from the flowers.

Prunus Pumila, arenaria, tenella, virgata, viridis, viridis & serotina, & can send you 10 to 12 spec. of each with female cones & also some male cones, with date of collection. With respect to cert (which you alluded to) can I urge at no expense in getting them, you must allow me to pay postage & sending them to you, & then refund in part some of the money perhaps you have expended to me. These last specimens of sentences are not (safe of time) as good as I wished, but I tend to select a very & smaller than to be embarrassing. Can write more fully by next mail perhaps some specimens.

Shall I send them to you, or wait for the chance of addg. fresh material cones in November?

Yucca filamentosa. I see in letter of yesterday print from my plant & fruit a group big cone some of the bracts, drooping the rest of the scales with Rosseau which left off the bags to some extent, but not as germs has been impregnated — & some I am of opinion that the anthers were not perfect. You may have observed in the specimens sent, that as soon as the flowers open the pollen is shrivelled appearance & I believe contains no pollen.

I have observed, I write both in the mind & with this is common

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My Pines pinea has one cone y 1870, & 6 ails obtain what you
wanted about it's growth. There are some 4 or 5 cones y '70
single & apical. My trees 10 or 12 years old is shaded thus
grows rapidly, but has not yet assumed the umbrella form.
Last year bears only bilby grow cone. Pinea has one egg to
the matter, & bark also other Pines.
With respect to Bateria pubescentis, I bear I wrote hurriedly & not
clearly, so as to be misleading. Since then I have had making numerous
observations of specimens in the woods, & both satisfied that I have got
the solution. Your last Note (p. 134) to "Structural & Systematic
Botany" Prof Gray says — "In the genera of the genus, the leaves
of Bateria pubescentis, which are really 5-ranked, often appear to
be monostichous or one-ranked, but this is owing to a torsion of
the axis." Now I have satisfied myself that this is owing,
that the leaves are really alternate (Phyllotaxis 2/5) — & that the
torsion of the axis is alternately from right to left & from left-
to right — the twisting taking place while the leaves are
unfolding, — & that this torsion is owing to the shape of the
leaf, & its oblique adnation to the stem.
The reasons for this opinion, I will now state:
This species like other Bateria, has spreading branches. The
branches are not much subdivided (like Tsuga & others) but
frequently contain abruptly for several nodes. They point inclined
-ominately to any or all points of the compass, but the leaves are
all arranged (where there are several contain internodes) in one
rank apparently, sometimes presenting one face, sometimes the
other, to the sun, according to the direction of the branch.

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The leaves are obliquely erected to the stem, but adjust themselves to the angular divergence of the branches, so as to preserve a general vertical position with the earth. A bulb gives leaves presenting an oval outline, concavo-convex, obliquely truncated at the base, the portion below the stem being about 1/4 the length of the blade; the back (or normally under-side) convex — the front (or upper side) concave. The alternate torsion of each internode in opposite directions can be traced by the lines of coloring on the stems, but is more clearly seen by taking a strip of the bark from the base of one leaf down to the stem, when it is seen to wind spirally through half the circumference of the stem from right to left, & from left to right, alternately through the extent of the branch, — the twisting being pretty uniform through the entire length of the internodal spaces

Where a branch is developed, the torsion of the first internode is less distinct, as there is less angular divergence to be overcome in order to adjust the leaf to a vertical position, but complete torsion takes place in the next internode, & so continues alternately to the end.

At the ends of the growing shoots, the young leaves are arranged alternately in prefoliation, each enclosing a leaf folded longitudinally, so that the opposite edges are brought together (conduplicate).

As I noted on some plants in the wood, making the above observations, I could see the process of torsion almost going on before me in the various stages. As soon as the young leaf is sufficiently developed to unfold, there is a gradual twisting of the soft succulent stem, so as to adjust the leaf to its vertical position. If the torsion spiral was from right to left, the next is from left to right,

as if to entwist the stem, & restore the axis to a right line

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Now two interesting questions are suggested

1st What is the cause of this torsion, & 2nd whence the receptivity of this peculiarity, for the male being of the plant?

The leaves of this species are remarkably strong, thick & leathery, with the ribs & frame work ramifying & anastomosing in all possible directions through the blade binding it together & giving it strength. The margin being somewhat contracted, produces a funnel shape & this oblique adhesion to the stem, gives it a firm grasp. When therefore the young leaf is about to unfold itself, the torsion of the stem is caused by the effort of the leaf, clasping the stem obliquely, to adjust itself in relation to the light, & assumes a vertical position, — the alternate twisting from right to left & the opposite, being the easiest mode, or rather, one that releases the stem of a continued torsion through its entire axis. The stem is thus brought to an equilibrium, each alternate leaf standing in its normal place.

Why it is necessary for the male being of the plant, that the leaves should assume this vertical position (one contrary to this usual position) while probably be found in a micros especial examination of the two sexes, which for want of a microscope I cannot verify. I will indeed a fresh leaf for your examination. It will probably be found this stipulation accomplished, & then the stem equally divided into the two sexes

I find in Bastieria stipulated a perfect torsion of the stem, but the leaves not being clasping or perfoliate can adjust themselves more easily to a vertical position

Ann Arbor Jan 7 1871

The functional terminus of the petiole is common enough in a great number of plants, to bring the blade into certain position with respect to light, & when there is a petiole or even a mere point of insertion (orifice) it is easily effected. In B. perfoliata the stem grows directly through leaf carries the stem around with it, & thus gives it a cup-reversed appearance. I have, quite interested & busy in examining the leaf ~~arrangements~~ & tendril arrangements of plants. If you can furnish such matters, & may on another occasion reflect upon your proteine, another long "round of leaf" on Phyllotaxis & tendril arrangement, & perhaps suggest you with specimens.

yours very truly
Asa Gray

Have there Peruvian plants been "pulled down" long enough?

I wrote to Prof Gray about two weeks ago on the subject, to call his attention to this matter, & your kind reply seems finally must have some effect on the plant, but have not yet had a reply.

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Rec'd Aug 17
ans Sept 12

Athens S.C. August 12 1871

My dear Sir

I have been waiting until I felt strong enough to walk out in the woods to examine Baptisia perfoliata in regard to the arrangement of main stem. I count out the main veins & perceive the number did (~~but~~ and more generally decline) but I think the specimens shown still to be irregular in main stem. I will send them along with the Pines, which I am now preparing to send Mr Nuttall.

I am sure you are very grateful.

Prof Gray in a late letter says

"The alternate (of B. perfol.) are in about equal numbers on the two sides —

"whereas in B. australis, they are only

"on lower side" This is what I

suppose on the explanation of the terms.

He also goes on to say — "As to Baptisia

"ala the species I know, are absolutely

"of main stem $\frac{1}{3}$ or rarely $\frac{1}{4}$ — about

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GEORGE ENGELMANN PAPERS

as young, but do "spread out their
surface to the light & air".
Their position as stated before, is
mostly vertical (with respect to the
earth) though they are subject to
on the branches. They face indiscrimi-
nately, as the position of the compass, (just
as the branches happen to arise from the
main stem) so that they stand with their
face on the back or side to the
sun, as the case may be. If the
branches grow upright (as they sometimes
do) the leaves on them mostly horizontal
but generally the branches diverge
at such an angle, as to give the leaves
a vertical position. The leaves must
follow the direction of the branches, as
they do the latter so strongly as to be carried
by them to any position -
than to clear in my explanation? if not
the fault lies with me.

Rec'd Aug 17 1871.

The Specie which goes in my pocket
was taken off from the ends of planted
trees & the rest from trees standing
Those taken off last winter grow —
all alike as far as I can see —
I do not find there varieties to coincide
Dr Hallock's — all kinds are going as Pea
coat —

The leaves of Pinus pumila of this
'71 are more short bulk green
On June 1st I made this note — "The young leaves
"of Scotch Pine are pale green, whilst those
"of P. pumila are not 1/4 as long as the old
"leaves. On the latter & above (June 5th) there
"ale the leaves formed to 1870 are cast"
On August 5th I made this note — "I see
"Pinus pumila now casting its leaves
"which have been changing color for
"two weeks past — The leaves have also
"which have cast their leaves, have now
"only the leaves of '71 remaining."

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The effects [illegible] still have a [illegible]
[illegible] of '70. The year can is small,
but I cannot be sure if it is alive
or dead. Do the shedding of leaves
[illegible] to the green [illegible] a change
of the seasons? I observe my tree
is affecting the umbrella shape.
The lateral limbs are growing [illegible]
than the terminal shoot, & the tree
is assuming that appearance
Will send off your package in
a few days

Yours very truly
H. W. Ravenel

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Rec'd Sept 19
Ans Oct 11

Rome Ga. Sept 16 /71

My dear Sir

A day or two before I came
to here (some three weeks since), I
received safely your note on the "Cac-
taceæ" of the Mexican Boundary Com.
Thanks for very cordially for obtain-
ing I had only time to take a hasty
look, but was surprised with the
extreme beauty of the plates. I
have never seen such exquisitely
delicate & truthful engravings, es-
pecially those of the foreign orders.
I can recollect seeing but two species
of the Order in Texas, mentioned & about
4 collected, as they were difficult
to manage, & I suppose they were rare
here. Dr Wislizenus wrote, or
has already probably, sent you the
few species from our coast.
A few days before I left home

I send off to-day Peries &c, by Express, which I hope you have long since received.

I came up here to see how my boy was doing — & hardly for two hours of classical ... Since being up here, I have felt so much stronger that I have been tramping over the hills, barefoot & picking up occasionally some thing of interest: There is not so much variety in the vegetation here, as in our Italian, but I have been able to collect several things I never saw before growing. Of the Peries, I see only Muscari, cicles & Leucoium. I found Calycotome confusa, Genista Aetn. & Prasium perforatum &. which I never saw before. At home days ago I found two little things unlocked which I cannot get much out. The bulbous root, & leafless scape

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with 5 petals calyx & 5 lobed
was-called
corolla, 10 stamens & 5 petals perigynous
Do you know it?

A letter from Prof Gray a few days
since, informs me that he has
my two papers sent him (on Bacteria parasitical & on the leaf & pencil
arrangement of certain Cucurbitili) to be
read at Indianapolis in August.

I am the unfortunate Kerbedge
Struck ill on my coming,
carrying ten umbrellas & even ten
undid like tales — sale written
ten last bear years (ten people
say) - Strange, have terms per-
suppress sometimes take perspire
& drive out the material blanks!

I hear here in a few days
for Silver

Yours very truly
W. W. Rowlee

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Rec'd Oct 11th
Ans'd same day

Aiken S.C. Oct 5/11

My dear Sir

On my arrival here, some
three a week ago, I found your letter of
8th ult. Whilst at Rome Ga, I wrote
to a Clemson College receipt of the "Cactaceae"
Your letter has received previous
that need attention — & first about
Baptisia

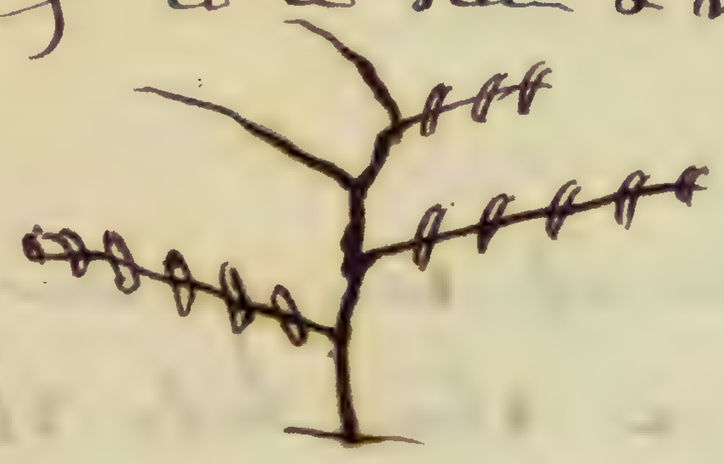
I send both a single plant, that
intermediate form, from which I get
the specimens for you & three stems
& fragments (one near to the tree B. tinct.
I marked) the spot & will take care the
root & plant it out carefully here,
in a congenial soil, instead of mixing
the soils of Carolina, by sending it to you.
I will send you roots of the B. tinct.
to try. However I send you another bit
of this plant, when some of the leaves of which
show the indentations of the 5 organs
3 leaflets & 2 stipules

The leaves I have not made myself conversant as to arrangement & branches & leaves in the living plants & B. perfect.

There are generally a few stout, divergent, almost horizontal branches, with rarely any sub-branching. It is on these long undivided branches, that the peculiar ranked arrangement of leaves is best seen. The thick oval leaf clasps the stem, — not at right angles, but with an acute angle in the axils, — & as the branches most generally, (instead of horizontal) form an acute angle with the stem, their arrangement throws the leaves in a more or less vertical position with respect to the earth: And the branches being directed to any point of the compass (as the case may happen) the leaves on them facing sometimes North, East, South, or West, depending of course on the direction of the branches: They may thus be said to spread them

scarfs ears inches enmeshed to the stem & roots.

Thus



I have examined carefully the Yucca in my garden which has been shooting up a scape annually for several years, & I can find nothing like a stem or trunk. The scapes of this season (some dead & decayed) seem to spring from the subterranean stem as in taking out the decayed scape, I trace the tube down below the ground to its attachment. In removing a living plant last autumn, I observed several knobs (or plant thickened young buds or suckers) about one inch long & about an inch thick, pinks or light red colored, which I believed to be the rudiments of next shoots. I detached several of them & planted them out, both & survived.

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were it any species. I think however it is a stenolobe species as well as I can recollect.

I have not yet had an opportunity to examine with the two questions about Pinus australis - viz the elongation of axis after the flowering season, & the falling of the leaf at 15 to 16 months, but my impression is strongly in favour of both. The leaves however are very & especially those on reduced longer

Have you ever examined the sepals & scales of pollen grains in regard to serration to ascertain if they furnish specific characters?

Would you like to have some of the hybrid grapes for testing in your locality? We have some very superior varieties than any American grape & have one

Have in descriptions of testing them in different seasons, & will send some to you if you wish

Yours truly H M Ravenel

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Rec'd Octob 24th
Ans. Same Day

Aiken S.C. Oct 19 — 71

My dear Sir

Have somewhat ashamed at not knowing Oxalis violacea. I had not seen it growing for some 15 or 20 years but I knew it very well even in the bare country. When I found this thing at Rome, it reminded me of Oxalis violacea; & I searched dilligently but could find nothing but dead specimens so I concluded it could not be an Oxalis, but some endogenous plant. Still the resemblance struck me. On looking at my herbarium — lo! I see a specimen of "Oxalis violacea" in my own handwriting, collected by my self in Cofferil last & sent by letter, which I have also letter (imperfect) this year. I am reminded by this of two other things, which he sent me, & which

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I cannot make out. I will inclose
specimen in this note & ask you
Please return them as I have no others
Answer. The truth is, I strayed so
so long in the field of Cryptogamic
botany, that I have become very
oblivious of things which I once
knew familiarly

Yes! tendrils of Vitis aestivalis
are simple — though sometimes in
vigorous shoots, they are found forked
but this is rare. I found but one
in my examination this morning
Another peculiarity — the tendrils of
Scuppernong (a white grape) are always
white (greenish), whilst those of
the black or purple varieties are
always purple. I planted out
many seeds of Scuppernong a few
years ago, but not one bore white
fruit, & I could always know
before hand the color of fruit by

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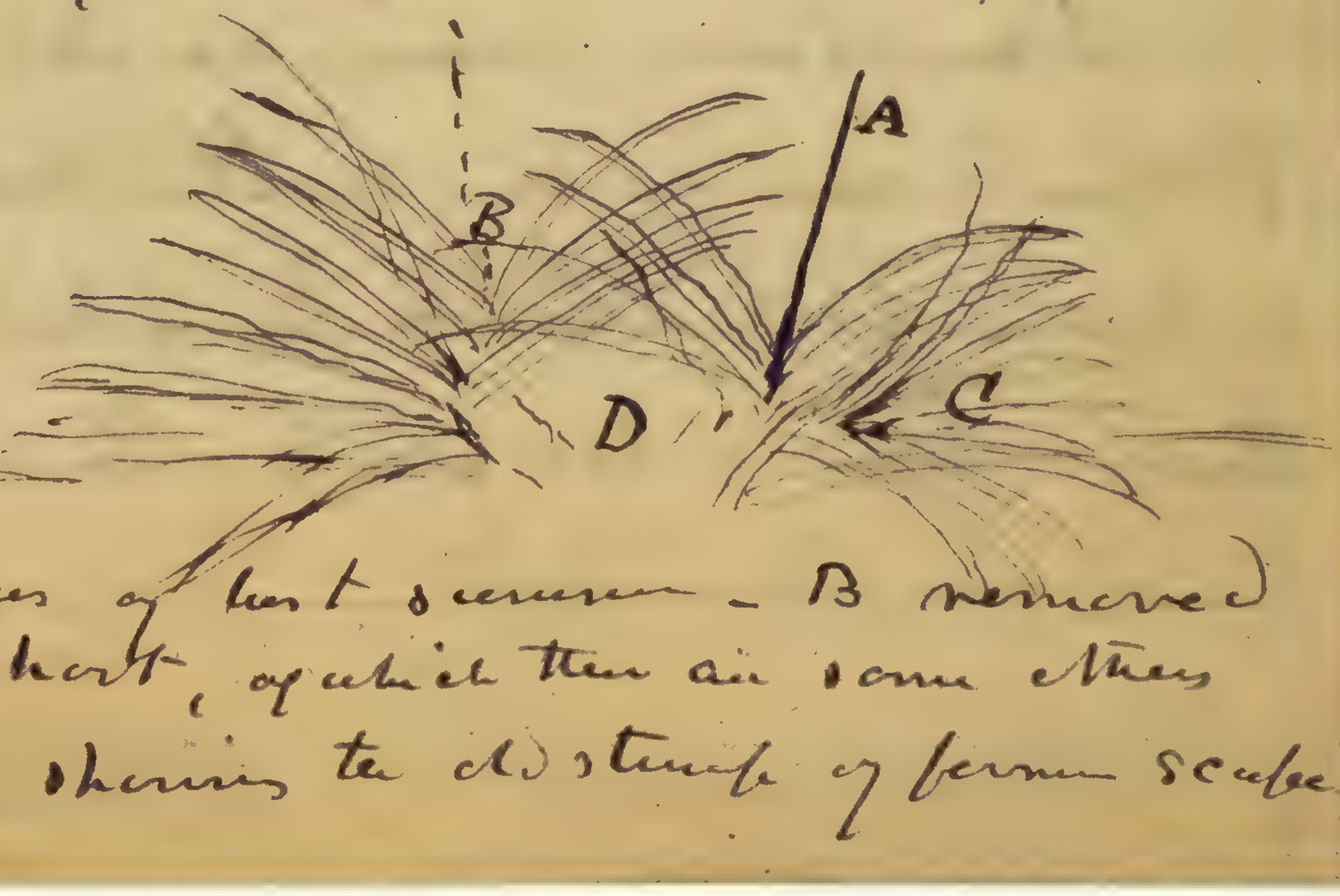
aerial roots 1-3 feet long

that of the tendril. This species has a tendency to throw out [underlined] aerial roots [/underlined] from one to three feet long & quite numerous ones. I have never seen them reach ground

I have taken another herb of my Yucca plant. There were two scapes which flowered this season. both were cloud & decayed - I took out one, & found the cloud to be born, from below the leaves. Although the scape dies after flowering, [underlined] the leaves do not die [/underlined]. My plant presents the following appearance as well as my rough sketch can make it



A. & B two scapes of last season - B removed
C = a young shoot, of which there are some others
D = a bare place showing the distance of former scapes

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I never see any dead leaves on my plants except the lower down touching the ground. I think when the plant attains old age there may not be an elongation of trunk, but there must be a mass of sessile-terminal stems, spreading over some surface. Perhaps I am wrong in saying it is stemless.

With respect to the non-impregnation of the flowers, I am puzzled. I am aware of the stress laid upon wind & insect agency in impregnation, but why is it that all the flowers fail one year, & all succeed the next? We must have this thing in view next season & watch the process.

I enclose some seeds of "Flowers garden" one of the cult. var. of cultivation a large late black purplish garden, with black skin & large pulp — the only kind we have left.

Yours truly
W M Rascoe

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Recd 25th
Ans Sept 25

Aiken S.C. July 22 1862

My dear Sir

I received yours of 7th inst
a day or two since, on my return home
from a few weeks absence in Upper
Georgia, near Rome. My son
has named of them, & has a small
farm just outside the town, where
I have been staying to recruit
during our hot term. To my
great surprise & pleasure, I there
met Dr Chapman, & we had
some pleasant talks & a ramble
over the hills together. He has
lately moved to Rome, & means
to make it his home "if he
can make his bread". — At least
he will try it for one year

Yes, I am good friends & Hillsboro'
has left us. For near 30 years,

own carries pendulous bracts containing flowers & consisting of — & 9 mm to 6/8 of a mile.

A day or two later Comings sent me 9 records to Port Darwin containing Pinus Strobus — but no letter coming with it (or Portmanteau) & only received it some few days. Thanks you. I was glad to hear it, as my old specimens were very poor.

Two years ago I sent you some specimens of Pinus montana, showing the bracts in a young state. Last May I found a very plentiful (planted) tree in the same state. Mistletoe on Rowan, my attack in one direction incubating again. Almost every stump of Pinus (either Mertensiana (Lambert) when (the tops had been cut by the military, affording numerous shoots (6 to 12 inches long) showing the true leaves very distinctly

I enclose on of them. I don't know if they are common, or if they have been previously noticed. They seemed to be new to Chapman & to Canby & Meehan. The specimen shows very beautifully the true condition of the Pine, viz: a knot or decurrent leaves, & true buds from the axil of each leaf, which buds develop ~~(catkin buds etc.)~~ sometimes into branches, but more generally into flexible shoots (converted in time deciduous)

This condition is only seen on these very luxuriant shoots. I have seen them on old trees. In some specimens the leaves are present, but no buds in the axils. This condition corresponds with the marked peculiar which accubies a patent of each pair quite.

I send two of my pieces to Glenn Brief.

this season. The capsules only each of the whole, were berbidged & green. I am now destroyed by some accident — the stem & nodes to you, to compare with your Mantissa plant. I will keep in mind what you say about the styles & stigmas — & write to.

I send specimens of a Mexican autumn plant for name. It was sent to me a year ago. Leaf taken from near the tube & smaller than average. Inflorescence Panicles — a staminate flower & a section of a berbidged included green capsule. Staminate flowers in an corymb (or terminal) panicle containing 8 to 10 florets — fertile flowers one or two, axial on the panicle, both from the stem axis with bracts. It seems to belong to an Order that I do not know. Can you give me the name?

Yours very truly
H. H. Rusby

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Rec'd Sept 25
Ans'd

Niles Sept 21 1872

My dear Sir

I am looking over my Lessons
to often day, I find by some specimens
collected many years since in the
Neighborhood of these Stocks. that I have
not entirely in them things,
I send them for your inspection

I add some other things, which
ought to me, on which I would
be glad to have your opinion
The things from Santa Rosa Island
like Sandberg's discovery, but the
situation of the flowers seem to
forbid. The grass sent by Dr
Hallenbeck boggles me exceedingly
Can you remember the region
this was gathered from?

Did you receive my letter 7
July, written shortly after receiving
7 Vols I have not heard

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from your friend

Yours very cordially

H. W. Ravenel

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Rec Oct 8th
Ans Nov 3d

Wolf
R Lowe

Alton SC. Oct 4 1872

My dear Sir

Thank you for yours of 25 ult. That little Wolffia has been lying in my herbarium for over 20 years unsuspected of any organized specific identity. I subjoin what collected, my attention was attracted by its difference from the common white which is so abundant. As it is, I send you all I have, so I must beg of you to take all or part of the plant & return me some specimens.

Have you at hand Miss Gray's new Check man — Newton or Santa Flora [redacted] Wedge it? I send flowers of the Mexican Euphorbiaceous plant, with a sketch of plan of inflorescence. It is a shrub, or perhaps a tree of some size. Sent to me by a friend.

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in Charleston as a seedling on year old
about 12 inches high, the year in 91 about
[illegible] ft. — & this season about 4 or 5
more, blooming this year for the first
time. The seeds were sent from Mexico
It stood one winter here, killed back
a few inches, on the terminal twig
It is quite ornamental as to foliage.

Azolla does not grow within reach
of me here as far as I know. It is
abundant along the sea coast — & also
down in it in Texas & Louisiana.
I think Dr Hallock could probably
supply. If he knows it & I can send
him mine supply you cheerfully.
I send specimens of it in alcohol
many years ago to Berkely in England.

In calling you "primary" leaves
of Pinus, true leaves, I only mean
that they occupy the normal position of
the true leaf of the plant. So far as I have
observed, they are confined to young trees, on

& to remove shoots from stumps of older.
I obtain them from the first terminal a young
tree of P. sonstenia, over 6 or 8 ft high
& probably 8 to 10 years old.

Shoots generally then "primary" a "true leaves"
~~become only~~ scale-like bracts as the true primary
older, but they still remain quite distinct
from the sheath which surrounds the base of
the fascicle. That these fascicles are
undeveloped branches, I suppose there is no
doubt. I have seen them in all stages of
development in the axils of the "primary"
leaves, from a short-pointed bud to
the well developed fascicle with 2 to 3
leaves in the sheath. Their placing corresponds with the usual system of the true leaves & persistence in the young state for several years also supports the form of their character

See in the specimens in leaf of P. australis
& P. taeda, the leaves reduced to scale like
bracts, & also the scars on the inner bark
showing the connection of fascicles with the
woody system. I cannot see what it is.

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makes any difference whether these parasites be called "secondary" leaves or "phyllodia" shoots". Pouffour says on the leaves of these undeveloped branches, & Lenormand the functions of leaves. Do you see any error in this view of the matter?

Did I ever mention to you that I was observing on Herb. of Cryptogams for sale — Fungi 2800 Lichens 700 Mosses 620 Hepaticæ 80 & Algæ 300. I want to obtain what to go to obtain it hopeless. Still then will also go ask my shoemaker consisting of material enough to add at least 1000 more species of each class. If you know of any individual or public institution likely to purchase, please mention this — & I can give a more critical & full statement of contents & price

Yours very truly

H. W. Rickett

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Rec'd July 11th
Ans Aug 14

Aiken S.C. July 8th 1876.

My dear good friend

Your letter of 30th ult. with accompanying publications came to hand in due days since. Many thanks for your kind remembrance. Indeed it is more than I deserve for any thing I can do for you in return.

When I shall ever write the pamphlet I will bear in mind your request about the Oaks. Dr Mellichamp has sent me leaves of Agave long. v. typica. I have a very strong impression (almost amounting to certainty) that I have seen this variety before many years ago when I used to live & botanize along the seaboard region. Dr M. writes that with him, the (mottled) Character is not retained under cultivation.

I note on p. 19 of "The Oaks", (under Q. semicla Walter) you speak of "Walter's abode" near Bluffton S.C.". This is probably

a mistake. Elliott lived at Beaufort not far from the present Bluffton, but as far as I know, Walter never lived in that region of country. Many years ago I visited his former residence on the Santee river (known all through the neighborhood as "Walters Garden"). There I saw the remains of his botanic garden & his grave & there ends his connection. The place had been long abandoned & the native vegetation had encroached & almost obliterated all traces of former cultivation. His descendants (whom I never knew) lived near Bluffton. This is not far from Santee is about 50 miles North of Charleston, while Beaufort must be further off 100 miles or more S. W of the city. However that fact could not influence me in any conclusions you may draw as to the identity of his Q. simulans. I only allude to the matter as a historical fact.

I am glad that at length somebody has

been told enough to say Asa Gray did by bridge
I have all along felt sure of it, but till I had
seen the authority that you have to assert it.

I am amazed at the amount of work you
accomplish in botany, & at the completeness
& lucidity of the work. Cincinnati, Quebec
Geneva, Geneva, the Pines, Ovules, Agaves &
stem Cruciferae should get up a memorial
crown, even exceeding the Boppart Ferns in
richness of design for this Centennial year.
- But - verbum sat - You are a modest
man, as merit is always modest, so I
say no more

You ask "How is botany with me". I
answer truly, I should have to say - "A thing
of the past, with pleasant recollections"
the present "environments" are not favorable
to such pursuits. Just consider - Æt. 62 -
Peter-formicae num. 9 - maternal uncle
to undertaking the day - Now there are things
not to make one grumble or be discontent,
but they are undoubtedly in taking, even

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the stench from our dead & enthusiasm

I think Asa & Dr Gray owe me something in having introduced such an acting, over-
getic, willing & accurate observer & co-
operator as you have found in Dr Melichenbach

He deserves all you can & I hope

truly yours

H W Rowekel

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Rec Dec 21st
Ans same day.

Aiken S.C. Dec. 17 /77

My dear Sir

Afraid how lately sent me
two enclosed leaf & seeds of a tree said to come
from Mission Valley, Victoria Co Texas
It is described as "a deciduous tree, with black
berries about size of a small grape, each
berry bearing 3 seeds". Can you state me
what it is? Please return me the seeds
as I would like to cultivate it.

I have just returned home from a short
visit to Florida, when I went especially to
make collections of Cryptogams. In connection,
I write to ascertain if M.C. Cooke (of Greville)
I perhaps to open sets of the fungi in continuation
of my "Carol. Exsic". Tuckerman tells me
of the Lichens, Austin the Mosses & Hepaticæ
& Prof Wolle the Algæ. For two short years I
was away, I did extremely well - bagging some

2 to 300 species in two different orders although I have long given up the company to the critical study of these things, it did me good to get into these magnificent forests of Magnolia, Persea, Talauma &c. I had not hands & eyes enough to manage the Cryptos - so had to let the Phanerogams alone. I did however snatch a few things which looked very tempting - & enclose a specimen of Senecio for you examination. I got also a few specimens of Tillandsia juncea & recurvata. If you have it not supplied with these I will send you specimens.

I am now engaged daily in preparation & examination of other plants

Yours very truly

W M Ravenel

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Rec Feb 18

Niles O. Feb. 15/78

My dear Sir

I regret to state that
I cannot have the
pleasure of your company
two other days & spend with us the same terms.

The pamphlets have also been received:
I am amazed at the work which you
accomplish — therefore work so essentially
to the future welfare & history of Ohio.

If the Lemmon fruits interesting & think
it may be able to get many of it
through my friends at Evansville

Yours very truly

W M Kennedy

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Rec May 10th 2
Ans same day

Athens S.C. May 7/78

My dear Sir

Your letter of 29 ult reached me a few days ago, enclosing a specimen of the Florida Millsia. Is this the first of the genus detected in U.S.? I may be able to obtain specimens while here. I writing to parties in Fla, & describing the place when I got it. (perhaps) - I will try at any rate. You inclined to think ~~another~~ a letter from me with three specimens enclosed, never reached you. You will recollect after sending you the specimens immediately upon my return from Fla., & your statement that they were interesting & asking for more, I sent some inclosed in a pamphlet — which failed to reach you. I then inclosed more specimens in a letter about mid Mar of Feb. This your last letter & the only one received since that time makes no allusion to the Feb letter.

I have finished drawing my specimen very clearly, but it a small bit will furnish many Millions, so if you want any more, I can show again. You have ten best right from a good subsidy.

I have been off traveling again — this time to Darien on the Sentem coast of Georgia. I spent four weeks there in March & April — collected some 1400 to 1500 sh. fungi — besides a good lot of Crypts. Mosses, Hepaticæ, Lichens & Algæ. I am just now engaged, with the assistance of M. C. Cooke of London (Ed. Quarterly) in sifting another series of fungi exsiccati. I must state in all candour that it is mainly for the little profit that may accrue from it. to help along & keep the "pot boiling" (I call them my "pot boilers") that I undertake them may be of credit or disparagement & for scientific accuracy in the work, I leave it to Cooke. He has very kindly at his own suggestion, undertaken all the trouble of

excursion, & manipulation in putting them out. He gets a copy & ten
drawings of all new species. In fact
without Carlos co-operation I should not
have ventured ~~to~~ such an undertaking
As you know, I have given up for many
years active botanical work, & I find
I have been left two far behind in the race
of botanical progress, to venture now beyond
my depth. Fifteen years employed in
"fighting with fate the dear", may make
one an expert fighter, but he gets
very nasty in scientific matters
I had a pleasant visit from to Decaisne.
My son is now in Cornwall town, Inspector
of Customs (you know that is a great
London region). Michaux kind has
one of the islands near by from some years
If I ever go back I must get them &
look after some relics. Gardenia pro-
lucens grows in the Cattamacha swamp
near by — & my son has promised to

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get me specimens of it this season.
Have you got it — or shall I send you
some? I saw here also (about 6 miles
from the town along the coast) Pinckneya
Elliottii. The whole country is covered
with Sawn palmetto (S. serrulata) I saw
hundreds of acres solid in a body so
thickly covered with it, that except
the Pine trees, there was scarcely any other
vegetation

Yours truly
W. M. Ravenel

The first Vol. (Century) of "Fungi Americani"
is out — also the 4th is published in London
& Carlsruhe for dispersal of them — price
21 shillings per cabinet — When I hear of the
last vol. about 20 copies

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In examining my Specimen of Lemna Millsii I
in vain for separating tem, I soon made
an globular bodies at the bottom of the basin
evidently some organized structure — but tey
tey could not have escaped Hepkmacin
eye (or rem am p-so I suffrin tey rem
of no interest — But what can tey be?
Do tey belong to the Lemna, the Riccia or
the Millsii or something else?

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Fla. Jan 26th
'79

Aiken S.C. January 23 1880

My dear Sir

I send you by mail some very fine Oaks (2. viviens) which I have in possession made of germination. They were sent to me not long since by a friend living on the Peedee river near Georgetown in this State. He says the children eat them as they would do the tubers chestnuts & call them "Oak potatoes" The formation of these tubers is curious & I know of no mode of your growth similar to it. The only explanation that occurs to me is, — that as soon as germination commences, the nutritious starchy matter stored up in the acorn is transformed to form the tuber underground — when it remains to perform its functions, man secures from the destruction of animals. The reason has been so urged, that the acorns have sprouted in

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earlier than usual, — & you will find some of the seasons greater, & some of a lesser age. The tubers on the young seedlings are more firm & I suppose have lost most of their starchy matter from exhaustion. As you have paid special attention to the Oaks I think you will be interested in this thing. I want to my friend to examine a large number to ascertain if they are the normal specific type of the Live Oaks. He informs me that he has done so, & as far as he can see, it is constant & universal! Have you observed of this fact?

But in addition to any interest you may feel in this, it occurs to me that you may enlist my friend — (Wm. S^t. Murdoch Esq) in your service as you did Dr. Hallockmark. He is nothing of a botanist, but a man of education, & of good observing habits — taking an interest in all Country phenomena.

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He grew up in Charleston & was for some
time in mercantile life as a Cotton
& Rice factor, but came into professional
& a large Rice property on the Peedee
river, where he retained & is now
living. He is a distant relation of mine.
& I have known him from boyhood.
The section of country in which he lives
has been but little explored by botanists
& I have often felt tempted to pay
him a visit, on his repeated invitations.
but have never done so. He says there
is great variation in the Live Oaks as
to foliage, fruit, form of castings, the
leaves &c, but I suppose there are
also specific variations which occur in
the Oaks.

However I shall write to him that
I have sent you his "Oak potatoes"
& that he may hear from you. Should
you wish to have any thing more about
these Oaks from him, consider this as

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a letter of introduction: His address is "Wm S^t G. Sharzyck Esq^r Georgetown S.C." His own residence is on the Savannah

I have not written — nor have I heard from you for a long time. I am still looking after the fungi — and (as I think I must have mentioned to you in one of my previous letters) write to the assistance of Dr Curtis of Hanover, an ill-man, another series of my Exsiccati — 4 vols. of 100 species each already published.

My truly yours
H. W. Ravenel

I have lately met a fellow townsman of yours, Mr E. Mallinckrodt, who visited his wife & son during the winter here — a general favorite I do mean. He tells me you are his family physician & we have had some agreeable talks. I should like your photograph which he also requested.

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Rec Feb 6

[redacted] S.C. February 3rd/80

My Dear Sir

Glad to hear from you again — & to learn [illegible] your interesting facts about the Lima Bean.

As I understand the matter, this testa is not (as you say) "the corneata cotyledons & nothing else" — but is evidently a transparency of the surrounding from the cotyledons & at its extremity. The acorn shaped on the surface — three grooves at its radicle & three (one — the surface) the tubes is formed — the enhanced acorn remaining above ground! I enclose a rough sketch which my friend Mr Mazyck sent me in his letter. He says he has examined a great number, & that is the process as I have stated above. He was puzzled to account for the tubes, — & I can see no other explanation — & that it is formed at the expense of the

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cotyledons. ~~[illegible]~~ The seed Coat is
the only Coat I know of which has connate
cotyledons — & perhaps the only one which
forms two tubes. This fact permits the same
connection between the two peculiarities.
The two lobes of the cotyledon being united; —
& in that state, unable to perform their
(nucleus feeding) may find it necessary
to transfer their store known of nourishment to
the tuber for a better "base of operations"
Or (as a thorough Evolutionist might suggest)
it is their taking measures to secure its
inestimable food against the depredations of
enemies by removing it from the surface,
under ground! Dr Hallschmidt will
be able to furnish you with materials for
forming an opinion. Should you need any
further help, write to Hooker.

H. W. Ravenel

My first notice of Pinus glabra
was published in Proceedings of Elliott Soc.
of Charleston in Nov 1856.

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Aiken My first notice of Pinus glabra was published in
Feb 3 1880.
Proceedings of Elliott-Society of Charleston in Nov
1856

Some often I became interested in
Botany (about 1842-3) my attention was
drawn to ten Pines, as one which I could not
locate in Elliott's Botany: I sent it to Prof
Eggs with specimens of P. mitis, & called his
attention to ten difference, but he merely
labelled ten lots "P. mitis". Of course I
had to yield (but under mental protest)
Some years after, Dr Curtis paid me a visit.
from a long ago, without telling my object
I took him out to a pine specimen & ten tree,
& asked him what Pine it were. After over
he acknowledged it was a Pine he had never
seen — & when my pointing out ten peca-
liarities he ~~admitted~~ agreed with me that
it was Walters long leaf P. glabra.
Since 1856 I have heard of it in ten localities
— in ten Southern states & ten points of
country: I owe to ten influence Dr Mellichamp
has found it about Bluffton. Dr Chapman
thinks he has seen it in Florida. On my
way from Texas in 1869, on ten N. O. & Jackson

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R. R. runs to Cuba and then crosses
Colorado, ~~to the Pacific Ocean~~ & runs thro
which I was sent to Pagosa Springs, but
on passed too rapidly for me to assert it
positively

Two years ago when I was at Denver
Ga. I saw cones of P. Ellerbeii in the
woods in several places, always near
to salt water

Yours very truly
H. N. Ravenel

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Rec'd Oct 4th
Ans — 12

Niles O.C. Oct 1/81

My dear Dr Engelmann

It is a long time since
I have greeted you by epistle.
The last reminder I had of you was
an enquiry of your Rocky Mt. Senta
for a Sanguisorba & Nelbia in Truckee
Cañon, with plant-leaf & otherwise
frondescence. You had an airy pa-
tion no doubt. If I had (on to-
phrase it) "mind & (rat" as I once had,
I should have liked to join you

I still enjoy a ramble in the woods
& especially in new grounds — & I pick
up things occasionally. (I refer now to
Phacampsis — I am always on the look out
for Cryptos.)

Last March while I was at Darien
Ga I secured a small Lemna, which
seems unlike any I had seen. I
sent it to Chapman, & he thinks it

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probably a new species.
Also later, in April which I sent
to the Secretary of the Statistical Society
when I was living) I found a Zygnema
which struggles me somewhat.
I found it growing as stiff, coarse woolly
hard, - a kind that had once been in
conjugation, but had been thrown out.
It was evidently endogenous there - & the
cells had survived the rotten confinement
conjugation the kind had received - or had
many often twos & threes, which were coming
out & rescuing portions of the ground.
I saw numerous plants (2 or 3 dozen) each
a coalescent, with beans which reminded
me of V. filamentosa, except much smaller
than any I had ever seen, & without traces
of filamentous threads. I examined them
carefully for old flower stalks, but could
find none at that season. I took the
seeds of the smallest plants & brought
them safe - & have them growing in my garden

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I have taken the seeds, and the
[illegible] of them for cultivation

I inclose some two leaves taken from
two plants in my garden — the largest
I could find, that you may form some
idea of what it is.

I believe you know more of botany than
any one else in the country, so I have
selected from my herbarium, 4 species of
4 others, including every term, the most
from four Dacian - marked A. B. C. D.
A + B. from waters in St Johns Berkeley S.C.
collected 30 years ago
C from near Jacksonville Fla
D " " Darien Ga.

Have is an old friend Melenbrecht?
Mrs Ravenel gives my regards
very cordially & truly yours
H W Ravenel

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Rec Jan 10th
an — 15 —

Mem S. C. Fourcroy 7/8 c

My dear Dr Engelmann

Your reflection ten Mexican
Van den Veldens called at my house a few
days ago & handed me your letter. I feel
qui me grande pleasure to do ale in my
power, & seem them in any way I can
I called on them yesterday at their lodgings,
& was glad to learn the revealed botten near
getting on well, — & have lein informed
any cautions.

I was down at Dorien again in Nov
last in search of Gandricia pulcherrima, but
have failed again - & cannot
explain the mystery of its disappearance.
Bessey has asked me for an account of
my efforts, & I have written him on
certain but the chemical, believing it
may serve some good as a guide to any
botten explorer.

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Michx. Thesis, I re-visited the pool of water
where I found the little Lemna in March
last, & sent to you in the specimen. I
found it covered with Lemna (I scrapped off
some the same) & have collected a good
lot of it. The leaves seem somewhat larger
than those of the March specimens, both & stems
do not seem thicker. Can it be
that so early in the season, the plant had
not attained its full growth? I can find
no fruit — but I submit it to you for
examination. I also inclose a single bit
of a Ceratophyllum I found in the same pool
of the Ceratophyllum. I take it to be
C. spinosum Mill. (C. American Porsh)
but as you can better judge in the
genus I send you specimen. I send only
a fragment, but the characters can be seen.
Has Limnobia I can send a better
with good wishes of the season
Ever yours truly

H. H. Rusby

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Rec Jan 24
Ans Feb 24

Aiken S.C. January 21 82

Gray Herb.

My dear Dr

I shall not be at home
I have received your letter
about that Lemna. On comparing the
specimens sent me by L. Peregri collected near
in the State, I considered them the same species.
but on Chapman's ~~thought~~ had thought it
in March might be merely a species. I sent
to be sure. They must be the same thing as
I found them abundantly in the same pool
from which I had taken them last March.
This which I find to be most common here,
Chapman does not allude to in his Southern
Flora. I sent Chapman a few days ago
two forms of what I call I have myriophyllum
together with my Potamogeton capillaceus
myriophyllum to a more minute q. Dahoon.
I am familiar with this species — & the
myriophyllum is not a distinct species, there
then is but little power to be attached

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to Affenen of hulit - shube a grute y
tree - leaves - locality &c.

I. myrtifolia is only found in the "Pines in two
Pine ands" - ocean, edl scrub. I. Dockeri
as far as I know now it (& my ocean plant
the Caltamaha) is confined to the ~~sea~~ new
river swamps & the dark inland swamps -
a much larger tree & of different habit
of growth.

The adv. have had a mild, but keen
winter - bad for insects who count dem
air exercise. Yew rabbi (the gorgon)
ecclesd here in fear nights ago - & rebuked his
brethren as getting on nerves. I don't know if
I ment the attitude in speaking of the "Samuel"
tree. They inquired about our common
shade tree in the streets - Melia azadarach.
Our Magnolia grandiflora is also called
Laurel, & as there are two or three of these trees
at their boarding house, I suppose it may
be that. Dwarf vines (dear Gah) dress up
grave mds also in these dry sandhills, but

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only acquire the general superstition along the
coast region

I should be extremely glad to see
you here — & greet you in the flesh &
after a correspondence of over 30 years
— & hope you may be able to pay the
visit.

I cannot tell you much about Sagittaria
It is over nearly 30 years since I left the
home country & mind of them. Mostly
plants on record about the country — & I
have seen but little of them since coming here.
When in Devon in Nov. I saw what I supposed
was a Sagittaria with long strap shaped leaves
rather strange to me, but I searched in vain
for any trace of inflorescence or fruit — &
did not take any specimens. If I can ever
go down there in summer or Spring, I would
like to make a collection of Phanerogams, as
I saw many things that looked queer to
me.

my best wishes
Yours
H. H. Rowley

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Rec March 4 Nilem S.C. Feb 28 '82

My dear Dr

Your of 24th is just received. As to the big Damen Spruce tree — there are two Engelmann's known in the Bulletin, which it is as well to correct. The finder makes me say the measurement was taken 8 ft from the ground, when I wrote it "3". The tree was standing so close to the tree, that I could not get a measurement under 3 ft from the ground. The finder also makes me say "just in leaf" when I wrote "not in leaf". Not having leaf or any thing but trunk & limbs (the latter too high to examine). I could not discover when specimen. The measurement however is strictly correct. There is a big tree in Beaufort Co in an State (one of the seaboard counties) which is said to be 18 inches in diameter — Neither have seen it & cannot say what it is — or if the measurement is correct. I will make some enquiries — If there is true it will be the Champion Big tree, & even the belt until some bigger is found.

Queer upgrade in rainier note are very

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in shape of
much. Late in leaf & in the habit of the
tree. The leaves persist longer than any of our
other deciduous Oaks, & some trees hold them on
until spring, when new leaves are ready to come
out. Down about Darien in Ga. I am inclined
to think they are nearly "evergreen". In Texas. they
look fresh & bright — & in March (the two months
only that I have seen them) although not as thickly
in foliage as in winter, they still have the old leaves.
Their venation is seen here in an attractive manner
trees holding their leaves during a good portion of
the winter.

I found out from your reference that it
was an Roman Centurion that they called "Laurel"
We see them frequently — & am glad always to
hear them common name. & shall am eager
Must about that visit of you to Chicago.
We can show you many things here to interest
you. Yours very cordially
H. W. Ravenel

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Rec April 10th
Ans " "

Allen Sc. Mobile Co Ala

Dear Sir

The receipt of your letter
this morning as "The genus Isoetes in North America"
(from which I am greatly Obliged) reminded me of some
thing I picked up last summer, & which I laid
aside with a suspicion that it might be an Isoetes
I have seen none in fact - have no specimens in
my herbarium, & therefore was two doubtful of its
status to do anything more. In plain truth I
was somewhat suspicious also it might be some
Elatine - but as a re examination I am more
inclined to believe it an Isoetes. At any rate
I should send you specimens, & if it is only an
Elatine, don't trouble to send

I was also at Greenville (5 miles from Allen)
in August last, & saw there thing & a Potamogeton
(which I take to be P. pauciflorus Pk.) & a Chara
also growing submerged in the canal near my
which heads the water to the Mill.

I entend specimens, & sent to Chara to Dr Allen

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of New York. I never heard from him, & think he never received the specimen or my letter I inclosed some of each specimen. The Chara & Potamogeton grew very much together on the specimen sheet.

I had hoped to see you here before you reflexus left Chicago, but they tell me, you are not likely to come. I think we could have seen very many things of interest.

I think your reflexus have enjoyed their visit to Chicago — & the benefits of the cracked bowlder seems entirely restored. We see them frequently, — as they very kindly invite us come many of ^ returning their visits, & come frequently to spend the evening with us. They have probably told you how very deaf I am — & of course as you know this is a great bar to social visiting I mean you can but little add to the pleasure of my most intimate friends. You reflexus have us in a week or two from New York & town home.

Yours very truly

H. W. Ravenel

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Rec April 18

Nilson S.C. April 15/02

My dear Sir

I think I must have sent you very imperfect specimens of that "Polemonella" that you should call it a Zauschneria. The fruit is entirely not that of Z. parviflora, the only species I have seen. I select a better specimen with good fruit — & also another which I collected a few years ago in many miles a few miles from Nilson — & which I find in my herb. without specific name.

You know, since (as did Dr Torrey once) & Dr Gray) I have stopped away among the "tired stars", I have not been paying much attention to Phanerogams — except to keep my eyes open to any thing that struck me as novel, or as peculiarly interesting.

So I have many things put away, in my herb. which seemed doubtful at the time, & which afterwards seem forgotten or disregarded

I shall take an eye for Isoetes when I have to clambering to go into good Cucurbita on these dry sand hills. I may look satisfied

they cannot find a home.

I believe your reflexion can to come
Nikes in a few days. Sorry we lost
the chance of seeing you.

Yours very truly
H. M. Rankin

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